

APPARATUS AND METHOD FOR CLEANING GUTTERS

Field of The Invention:

This invention relates to the cleaning of gutters.

Background of The Invention:

It is well known that gutters collect a variety of debris such as bird droppings, sand, dirt, twigs, and leaves and that debris can become a blockage that clogs gutters and interferes with their conveyance of rainwater. It is also well known that gutters must be periodically cleared of debris in order to perform their function of conveying rainwater.

There are several gutter cleaners in the prior art. See, for example, Patent No. 4,542,553 issued September 24, 1985 to Cary for DEVICE FOR REMOVING DEBRIS FROM GUTTERS; Patent No. 4,726,090 issued February 23, 1988 to Kilpatrick for GUTTER CLEANING DEVICE; Patent No. 4,848, 818 issued July 18, 1989 to Smith for GUTTER CLEANING TOOL, WITH A MULTI-POSITIONAL AND SELF-LOCKING JOINT, THAT CAN BE REMOTELY OPERATED BY HAND FROM AN OBLIQUE ANGLE; and Patent No. 5,988,715 issued November 23, 1999 to Mason for APPARATUS FOR CLEANING DRAIN GUTTERS. None of these patents disclose applicant's invention, and a search of the prior art has failed to reveal any teaching of the applicant's novel apparatus and method.

SUMMARY OF THE INVENTION:

The present invention comprises several components to be used in a novel method for the effective cleaning of gutters. The components include a long rod with a rake on one end and a hoe on the other end for cleaning long gutters, a short rod with a rake on one end and a hoe on the other end for cleaning short

1 gutters, and a scoop. All of the components are preferably made of steel, but may
2 be made of any suitably strong and durable material.

3 The maximum length of the rods is not critical and the rods can be of any
4 desired length within the spirit of the invention. In the preferred embodiment the
5 long rod is telescopic and has a maximum length of 12 feet because the difficulty of
6 manipulating the rod and handling the rake and hoe at the ends of the rod
7 increases with the length of the rod. The short rod is for cleaning short gutters
8 and short distances in long gutters and may be of any desired length. The short
9 rod has a clip for attachment to the workman's belt to make it readily available to
10 the workman when needed.

11 The rake that is attached to both the long rod and the short rod is a novel
12 structure designed especially for being moved through gutters, and beneath spikes
13 that attach the gutter to the roof, as the rake is used to accumulate pine straw and
14 other debris within the gutter.

15 The hoe on the end of the rod opposite the rake is used to accumulate
16 granular debris in a gutter as by pulling the hoe against the debris in the gutter.

17 The scoop is used by the workman to lift accumulations of pine straw and
18 debris from the gutter and discard such accumulations as by throwing them to the
19 ground or placing them in a bag.

20 The rods, the rake, the hoe, and the scoop are all dimensioned to pass easily
21 beneath the spikes that extend through the gutter at spaced intervals.

22 It is intended that the entire apparatus, both of the rods and the scoop, be
23 carried to the top of the ladder by the workman to be readily available for use.

1 The novel method of this invention includes the steps taken by the workman
2 with the aforesaid apparatus to accumulate leaves in a gutter and to clean a longer
3 length of gutter from each position of the ladder than has heretofore been possible.

4 **Brief Description of The Drawings**

5 Figure 1 is an environmental perspective view, with parts broken away,
6 showing a workman pushing the rake on the long rod over debris and beneath
7 spikes in a gutter to a desired position, with the teeth in the rake turned up to the
8 glide position;

9 Figure 1a is an enlarged view of the rake in Figure 1;

10 Figure 2 is an environmental perspective view similar to Figure 1, with parts
11 broken away, showing the workman pulling in the rake with its teeth turned down
12 to the raking position to accumulate debris from the desired position;

13 Figure 2a is an enlarged view of the rake in Figure 2;

14 Figure 3 is an enlarged perspective view of the rake at one end of the rod,
15 with part of the rod broken away;

16 Figure 4 is an enlarged side view of the rake at one end of the rod, with part
17 of the rod broken away;

18 Figure 5 is a side view of the hoe on the short rod, with part of the short rod
19 broken away;

20 Figure 6 is a perspective view of the hoe on the short rod being used to clean
21 debris from a short gutter, with part of the rod being broken away; and

22 Figure 7 is a perspective view illustrating handling of the scoop beneath a
23 spike in a gutter while removing an accumulation of debris, with portions of the
24 gutter being broken away.

1 **Detailed Description of The Invention:**

2 Referring more specifically to the drawings, Figures 1 and 2 show a workman
3 W appropriately positioned on a ladder L to clean a gutter G in accordance with the
4 invention. It is significant for the effective cleaning of gutters in accordance with the
5 invention that the workman's position on the ladder be as shown in Figures 1 and 2.
6 As shown, the workman stands on the ladder with his chest pressed against the
7 ladder L and with his arms extending around the sides of the ladder.

8 Standing in this position the workman is able to use both hands to grasp and
9 manipulate a long rod 10 and its rake 11 on one end of the rod to effectively clean
10 a portion of the gutter on each side of the ladder. The long rod is telescopic and
11 can be adjusted to a desired length. The difficulty of handling the rake 11 in a
12 gutter increases with the length of the rod. The preferred maximum length of the
13 rod 10 is twelve feet.

14 The rake 11 is small enough to be manipulated through a gutter beneath
15 spikes S commonly placed about every four feet along a gutter to attach the gutter
16 to a roof, and to rake pine straw and other debris D beneath the spikes in the
17 gutter. Part of the debris in the gutter G has been broken away in Figure 1 and 2
18 for the purpose of illustrating the rake 11 and spikes S.

19 With the workman positioned as described, and with a rod twelve feet in
20 length, the workman can rake in pine straw and debris twelve feet away from his
21 left side and twelve feet away from his right side without moving or leaving the
22 ladder.

23 Figures 1 and 2 show the workman W positioned on the ladder L as described
24 and manipulating the long rod 10 with its rake 11 in accordance with the invention
25 to rake in an accumulation of pine straw and debris, broadly indicated at D, within

1 gutter G. The gutter G is full of debris D but the gutter is shown with a clear space
2 for the purpose of illustrating the rake 11 and a spike S.

3 There are gutters having bottom walls of different widths and side walls of
4 different heights extending from the bottom walls. The invention is described for
5 use in a gutter having a bottom wall three inches wide, side walls extending three
6 inches up from the bottom wall and fastened to a roof with spikes spaced along the
7 gutter and extending through the upper portions of the side walls. When the
8 apparatus is used with gutters of different sizes, the dimensions of the apparatus
9 must be modified as appropriate to gain the benefits of the apparatus.

10 Figure 1 shows the workman W pushing the rod 10 and its rake 11 outwardly
11 from the ladder L in the gutter G to a desired position P. The desired position P
12 was selected by the workman as being the most beneficial position to begin raking
13 in some of the pine straw and debris D within the gutter on the left side of the
14 ladder.

15 Before pushing the rake toward the desired position P in Figure 1, the
16 workman has rotated the rod 10 to turn the teeth of the rake 11 upwardly to the
17 glide position, as seen in Figure 1, so the rake will glide over the debris D as the
18 rake is pushed to position P to begin raking in the debris.

19 In Figure 2 the rake 11 has reached the desired position P. At that point
20 the workman rotates the rod 10 to turn the teeth of the rake downwardly to the
21 raking position. The rake is then pulled in to provide close to the ladder an
22 accumulation of the same debris that the rake glided over when the rake was
23 pushed out to position P.

24 The workman then uses a scoop 40 (Figure 7) to remove that accumulation
25 of debris, and successive accumulations of debris, from the gutter. The scoop may

1 be used to throw accumulations of debris to the ground or to deposit accumulations
2 of debris in a bag, as desired.

3 The diameter of the rod 10 is small enough for the rod to easily pass under
4 one or more spikes while the workman holds the rod at a convenient angle, as seen
5 in Figures 1 and 2. The diameter of the rod 10 is preferably no more than ½ inch.

6 As most clearly seen in Figures 3 and 4, the rake 11 includes a shaft 12
7 extending in axial alignment from its rod 10. The shaft 12 terminates in three
8 teeth, a center tooth 13 and two side teeth 14 and 15. The center tooth 13 extends
9 in axial alignment from the shaft 12 to a downturned end portion 16. The side
10 teeth 14 and 15 extend from the shaft 12 in diverging relation to the center tooth
11 13 to their respective downturned end portions 16. The length of each tooth 13, 14
12 and 15 is preferably no more than three inches. The length of each end portion 16
13 is preferably no more than half an inch, terminating in a rearwardly extending lip
14 17 to scrape the bottom of gutters.

15 The small dimensions of the rake facilitate the manipulation of the rake
16 within a gutter while the rake is being used to rake in and accumulate pine straw
17 and debris, and enable the rake to pass freely beneath the spikes that attach
18 gutters to roofs.

19 As seen in Figures 1 and 2 there is a hoe 20 on the end of the rod 10
20 opposite the rake 11. Referring to Figure 5, the hoe 20 comprises a rectangular
21 sheet of material, such as steel, with preferred measurements of one inch in height
22 and three inches in width. A shaft 21 extends axially from the rod 10 and is
23 fastened to the center of the hoe 20. A conventional hoe has a handle attached to
24 the top of the hoe, but fastening the shaft 21 to the center of the hoe 20 is
25 advantageous for the hoe 20 to be used in gutters because the center connection of

1 the shaft 21 enables the bottom edge of the hoe to be higher from the bottom of
2 the gutter when the rod 10 has pushed the hoe under a spike in the gutter,
3 enabling the hoe 20 to be pushed further beyond the spike than would be possible if
4 the shaft 21 were connected to the top of the hoe.

5 The apparatus of this invention also includes a short rod 30 (Figure 6). The
6 short rod 30 is identical to the long rod 10, except for its length and except for a
7 clip 31 on the short rod, enabling a workman to have the short rod readily available
8 by using the clip 31 to attach the short rod 30 to his belt or elsewhere. Both rods
9 are preferably telescopic. Both rods have the same rake 11. Both rods have the
10 same hoe 30.

11 The function of the short rod 30 is to clean gutters that are too short to be
12 effectively cleaned with the long rod 10, and to accumulate debris close to the
13 ladder L in long gutters.

14 Figure 7 illustrates the structure and use of a scoop 40. The scoop is formed
15 from steel, or other suitably hard and durable material, with a bottom wall 41, side
16 walls 42 and 43, a rear wall 44 and a handle 45 extending from the rear wall 44.
17 As seen in Figure 7, the attachment of the handle 45 to the rear wall 44 is above
18 the center of the rear wall, and the handle extends rearwardly above the top of the
19 rear wall. This arrangement provides space for the workman's hand between the
20 handle and the bottom of a gutter. The preferred measurement of the scoop is
21 four inches in length, three inches in width, and of a height short enough to pass
22 under the spikes S.

23 The foregoing apparatus is tailored to the cleaning of gutters in an effective
24 and efficient manner. The two telescopic rods allow the workman to quickly and

1 easily have at hand the length of rod that is compatible with the length of the
2 gutter, and with the length of the debris to be cleared.

3 The described method of first accumulating debris on one side of the ladder
4 and then accumulating debris on the other side of the ladder without moving the
5 ladder is a novel method that results in a significant decrease in labor and saving of
6 time.